

$$(Y/\Delta Y) / (Y/\Delta Y)_u$$

TUBsRGB-Y contrast  
normalized to  $(Y/\Delta Y)_u$

$$C_r/C_{ru} = (Y/\Delta Y)/(Y/\Delta Y)_u$$

$$L^* = s (Y/Y_n)^n - d \quad (Y_n=100, Y_u=18, s=100, n=1/\ln(10), d=0) \quad [1a]$$

$$L^* = r (Y/Y_u)^n - d \quad (r = s (Y_u/Y_n)^n = 47,48, L^*_u = r - d) \quad [1b]$$

$$Y/dY = Y / \{ [ (Y_n / (n s)) ] (Y/Y_n)^{1-n} \} \quad [4c]$$

$$(Y/Y)_u = Y_u / \{ [ (Y_n / (n s)) ] (Y_u/Y_n)^{1-n} \} \quad [4d]$$

$$(Y/dY) / (Y/dY)_u = (Y/Y_u)^n \quad [4e]$$

